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ABSTRACT

Using a conceptualization of good thinking that is general and has application in all fields of study as the basis for a conceptualization of good reading, this booklet presents a case for the use of a critical thinking framework to define the domain of reading objectives, skills, or questions. The booklet's first section, "A New Framework for Reading Objectives," discusses thinking and reading, traditional reading comprehension objectives, current views of reading comprehension, why use a critical thinking perspective for reading should be used, and a critical thinking framework for reading comprehension. The second section, "Sample Reading Materials and Ideas for Lessons," presents and discusses four sample reading passages as well as ideas for questions and lessons based on them. The booklet's third section, "Measuring the Skills," offers sample questions pertaining to the four sample passages which deal with analyzing text, evaluation ideas, and extending meaning. (RS)

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CHAPTER 188

Massachusetts
Educational
Assessment
Program

May 1987

ED336726

Reading and Thinking:
A New Framework for Comprehension

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Preface

In April 1986 the Massachusetts Department of Education assessed the performance of all third, seventh and eleventh grade students in the areas of reading, science and mathematics. A major purpose of this assessment was to provide school districts with information to assist in their improvement of curricula and instruction. To accomplish this goal, three types of reports have been produced: school and district reports which provided comprehensive and detailed information on school level performance, interpretive reports of statewide performance, and focused reports which relate to specific issues or content areas. These reports, including the special focused reports which are in various stages of development, reflect the collaborative efforts of many Massachusetts educators and curriculum experts who interpreted the assessment data, discussed their implications, and made recommendations for school personnel to consider in evaluating and improving local curricula.

Reading and Thinking: A New Framework for Comprehension reflects concerns that arise from the assessment data, as well as from curriculum experts in the field of reading. In the state report we noted that in structured situations which depend upon literal comprehension, students performed well. In general, they were proficient in determining meanings of words from context, in scanning written materials to locate specific information, and in identifying stated main idea. However, when the task asked students to step outside the context of the passage itself, to analyze its intent, to judge and evaluate its content, students faltered. They seemed unable to take charge of their own learning. In discussing the results of the assessment, we concluded:

> Students should be encouraged to use their critical comprehension skills and taught ways to use evidence to judge and evaluate the material they read. In addition, students need instruction in selecting reading strategies and techniques for checking their understanding of concepts as they are reading and for recognizing cues in reading material.

This report examines the implications of these conclusions. How can we give students the strategies for directing their own reading? How can we help them develop the critical skills of analysis and evaluation that will allow them to pose their own questions, direct their own search, play an active role in the processing of information and its transformation into new knowledge? In short, how can we reconceptualize reading comprehension to reflect our notion of learners as active participants in their own education? This report presents a case for the use of a critical thinking framework to define the domain of reading objectives, skills, or questions. In preparing this report, we are indebted to Robert Swartz of the University of Massachusetts/Boston and to Stuart Kahl and Judy Staten of Advanced Systems for the design of the new reading framework and for its interpretation for instruction and assessment.

Foreword

For years scholars have debated the connection between literacy and both human progress and the development of intelligence. Whatever the connection may be, however, it is certain that written language is the central means that we have of recording, storing, communicating, and stimulating the growth of human knowledge.

Our ability to read written language is one of the key links in this process. We are not born readers. Making sure that we acquire the ability to interpret accurately the written symbol systems we use in our society is a job every society undertakes.

There is a dark side to the written word, though. While it is the chief vehicle for storing and transmitting the wisdom of our culture, it has been used as a manipulative force as well. The power of the written word to capture the thoughts and values of the writer, and the ability of the reader to absorb these thoughts and values through reading, can be as threatening to learning as it is promising. To overcome this threat, the reader must do more than just literally understand words and sentences. Reading must incorporate deeper layers of comprehension along with the ability to judge the worthiness of the thoughts and ideas being communicated. These deeper reading abilities are the reading abilities that our society is obligated to transmit to its members to sustain the positive impact on society's development that literacy can have.

It is based on this conviction that the Massachusetts State Department of Education has produced this booklet promoting improved instruction in critical reading skills. Teaching to read cannot be construed as merely making our youth capable of understanding the literal meanings of the words and sentences in our language. Reading abilities do involve abilities to decode, but are essentially intertwined with key thinking abilities — abilities at interpretation, critical comprehension, and good judgment in the acceptance or rejection of the ideas, points of view, and the values expressed in the texts we read. Good reading is essentially good thinking. The kind of reading that makes us prone to the manipulative force of language may be reading in some sense, but it is not the type of reading that any of us should be content to teach.

In this booklet we express our conviction that the study of the skills and attitudes of good thinking — especially of critical thinking — and of ways that good thinking can be taught to students in our schools can provide us with a basic framework and set of instructional and assessment models that we can use to give us insight into how good reading can be taught and evaulated. This approach is not new. Reading theorists have long attempted to conceive of the skills of good reading using the model of critical comprehension and judgment. But what is new about these ideas is the use of a conceptualization of good thinking that is general — not tied to any specific subject area or discipline, but that has application in all fields of study — as the basis for our conceptualization of good reading.

It is the power of understanding good thinking in a way that cuts across and has application in all fields of human knowledge that makes it so valuable in clarifying thoughtful reading. Furthermore, this conceptualization of good thinking involves nothing esoteric. This also makes it valuable in guiding our understanding of good reading. It captures skills that we all have and use — that we are all familiar with from our own experience — though they are skills that we often feel we can do better at using. In teaching and in developing assessment

instruments for reading, it is this link to what we are already familiar with in our own thinking that makes the job of teaching thoughtful reading an easily manageable one.

In this booklet we will show how the contributions of the study of thinking and the teaching of thinking can provide invaluable insights into what we should be aiming at and what we can do to teach thoughtful reading. We hope this booklet will be helpful to all teachers and will bring to them a fresh perspective on what we in this state — indeed in the nation — should do to assure that our youth acquire a standard of critical literacy of which we can be proud.

Robert J. Swartz
Critical and Creative Thinking Program
University of Massachusetts at Boston
May, 1987

A New Framework for Reading Objectives

Thinking and Reading

There have been many attempts to define or identify "thinking" goals or objectives independently within specific subject areas. "Science process" objectives and traditional reading comprehension objectives exemplify such efforts. However, because of variation in terminology or definitions of terms across the fields or because of vagueness and ambiguity in the definitions of various thinking skills, a comprehensive picture of good thinking has failed to emerge. This has created a barrier to good teaching for thinking.

Recent work in the area of critical thinking crosses the boundaries separating curriculum areas and provides a common framework to which subject-area skill categories can be related and thereby clarified. There are three basic goal-oriented types of thinking: thinking directed at *generating* ideas, thinking directed at *clarifying* ideas (however they may be generated), and thinking directed at *assessing the reasonableness* of ideas or whether they are worthy of our belief (however clear they may be). Each of these types of thinking, and their associated subskills, form the basic goals and objectives categories of thinking-oriented instruction.

The three basic forms of thinking complement each other and are utilized in most of the ordinary thinking tasks we perform, like making decisions, solving problems, planning activities, etc. The first category (generating ideas) involves more of what has been called creative or divergent thought. The second and third categories involve the two basic forms of critical thought — analysis and evaluation. Skills required to clarify ideas include analyzing the meaning of words and statements, detecting ambiguity and equivocation, classifying and defining, finding conclusions and reasons, and uncovering assumptions. Skills involved in assessing the reasonableness of ideas include evaluating the reliability of secondary sources and using evidence to explain, predict, and generalize. Recognizing that most common thinking activities utilize forms of thought falling into these various categories makes it important to bring together the areas of critical and creative thinking in spelling out the ingredients of good thinking.

In different academic fields, good thinking can be seen as emphasizing certain ways of clustering and using these operations of thought and their subskills. For example, in a discovery-oriented field like the natural sciences, there is a stress on accurate observation as a basis for the data used to support ideas. Scientific experimentation can be seen as an interplay between the capacity to generate hypotheses, predict what would happen if certain things were the case, and accept information based on accurate observation to make critical judgments about the viability of the hypotheses being tested. In reading, where we are put more in a reactive position to ideas and information that others are communicating to us, two categories of critical thinking skills are emphasized — those analytical skills involved in clarifying ideas, and those evaluative skills involved in assessing the reasonableness of the ideas that are being expressed. While instructional objectives in reading have a critical thinking "ring" to them, reading instruction itself has not developed readers' thinking skills as effectively as it should. What follows in this report is a

discussion of a more comprehensive framework for reading comprehension which brings together traditional reading objectives, current theory in reading, and recent developments in critical thinking.

Traditional Reading Comprehension Objectives

Currently the most commonly used classification scheme for reading comprehension categorizes skills into three difficulty levels: literal, inferential, and critical comprehension. Many types of achievement tests report scores for these different levels and even for specific skills belonging to each level (e.g., inferring main idea or character traits). Frequently, lists of such skills make up local schools' scopes and sequences intended to guide instruction and testing by identifying types of questions students might be asked.

Traditional lists of reading comprehension skills/objectives have a few shortcomings:

- *Many reading experts feel that traditional reading comprehension frameworks do not lend themselves to effective instruction.* Skills lists without a meaningful structure seem to encourage an emphasis on mastery of specific "enabling skills" in isolation through "worksheet/drill" instruction. (This criticism may be particularly applicable to the elementary grades.)

- *The skill-mastery approach emphasizes skills at the expense of essential meanings.* Traditional objectives frameworks in reading foster a tendency to believe that in teaching and testing any passage should produce a good sequence question, a good cause-and-effect question, etc. This tendency detracts from the more important understandings a reader should take away from reading matter and denies the individuality of passages. It also requires students to read passages very differently in instructional and testing situations than they would read similar materials in real, out-of-school settings.

- *Distinctions among many skills are unclear.* For example, very often generalizations and conclusions that might be drawn from a reading passage are statements of the main idea. Questions asking for the author's purpose in which all of the answer options are worded "to explain . . ." are really main idea questions. Character traits and motives are often causes, and character feelings and predicted outcomes are often effects.

- *Teaching and testing practices often reflect narrow interpretations of the domains of skills in the different categories.* For example, "fact and opinion" questions frequently list a value judgment as the opinion. Critical thinking experts would take issue with this narrow view of what constitutes opinion.

- As explained in the next section, *reading experts feel that the traditional skills are too focused on text, failing to capture the dynamic nature of the reading process.* The emphasis on textual meaning itself leads to a shortchanging of important, teachable skills readers must apply in determining *how* to read and *how* to detect meaning.

Current Views of Reading Comprehension

Recent theories of reading have stressed the interactive nature of reading by which both reader and text contribute to the construction of meaning. These dynamic views regard comprehension as a process of continual refining and restructuring of understandings by the reader as he or she progresses through reading material. Comprehension is influenced by such things as the reader's expectations, the concepts or ideas themselves, and text (the linguistic material).

Some reading experts are giving a great deal of attention to an area sometimes called "comprehension monitoring." This area deals with metacognitive aspects of reading — a reader's awareness and conscious application of different reading strategies which vary according to the characteristics of reading material, the reader's knowledge of and experience with similar materials, and the reader's purpose for reading. Relevant strategies that should be in a reader's arsenal include use of the structure and organization of the text, identification of appropriate strategies (e.g., skimming, scanning) to suit the purpose for reading, use of self-checking techniques, adjustment of strategies while reading, recognition of appropriate prior knowledge and additional resources to call upon, etc. One might claim that we cannot teach reading comprehension. We can teach "comprehension monitoring," which has as an outcome comprehension. Traditional reading objectives clearly neglect the area of comprehension monitoring considered so important by reading experts today.

Out of the current theories come many implications for the improvement of teaching and testing in reading. Related recommendations include, but are not limited to, the following:

- Give increased attention to the metacognitive aspects of reading comprehension.
- Make use of a wide variety of types of reading material requiring varied approaches to reading to suit different purposes for reading.
- Use reading matter that students would be likely to encounter in real contexts removed from reading instruction. (For example, much longer, intact pieces would be preferable to contrived, paragraph-length passages appearing in many reading tests.)
- Emphasize global, broader meanings of reading matter (essential ideas and issues) in questioning.
- Stress inference as essential to the process of comprehension.
- Use techniques to "activate" readers' relevant prior knowledge in reading situations.

Recent literature in the field of reading provides many ways to implement these and other important recommendations. Several statewide testing programs (Maine, Michigan, and Illinois among them) have made special efforts to address these recommendations in the design of their tests. For those interested in reading more on current views of reading comprehension, selected references are provided at the end of the report.

Why a Critical Thinking Perspective for Reading?

Reading comprehension is undergoing a great deal of scrutiny as the need for a better understanding of the reading process becomes more and more apparent. The new theoretical models representing more dynamic views of reading have evolved in response to this need and are proving useful in guiding further investigation of the reading process and identifying important skills and considerations for instruction. However, the limitations of traditional taxonomies of reading comprehension objectives and the lack of a comprehensive structure accommodating both comprehension and comprehension monitoring leaves us wanting for another framework.

It could well be argued that reading itself *is* critical thinking. "Analysis of text to clarify ideas" and "evaluation of ideas" are commonly used categories for critical thinking skills. The names of traditional reading comprehension skills bear a remarkable resemblance to names of critical thinking skills found in these categories. However, critical thinking experts would claim the way the reading skills are represented in practice is much too limited, even simplistic. Interestingly, current interest in critical thinking skills appears to be more in conjunction with other school subjects. The use of a critical thinking framework for reading could serve to unify instruction across curricular areas.

The proposed reading framework reflects the merging of traditionally taught reading skills with additional skills considered important in current reading theory and the field of critical thinking. The framework itself and the sample passages, lesson ideas, and questions presented in later sections of this report were designed to address the recommendations listed previously with the intent of bringing instruction and testing more in line with current views of reading and critical thinking.

If, as current literature suggests, the new framework does indeed "capture" the skills needed for effective reading, then it is clear that the teaching or testing of only traditional reading objectives reflects poor coverage of the domain. The objectives listed in the cells serve as examples and are not necessarily comprehensive. The discussion following the matrix explains the rationale behind the major categories of the matrix, and sample questions presented in a later section serve to clarify the meanings of the objectives or skills.

A Critical Thinking Framework for Reading Comprehension

Skill Category	Perspective Relative to Text: External	Perspective Relative to Text: Internal
Analyzing Text		
Type of Information	identify genre (type of selection) recognize meaning/purpose of structural/organizational cues (headings, italicized words, etc.)	†*distinguish fact from opinion recognize inferences and/or conclusions (including generalizations, predictions, and deductions) *recognize assumptions
Relationships of Elements	associate genre with its characteristics (purpose, structure) recognize topics in which prior knowledge would benefit comprehension	†*identify causal relationships (cause and effect stated) *identify similarities and differences (compare, contrast, categorize) recognize ambiguity/equivocation associate reasons w/ conclusions recognize analogies
Main Ideas/Issues	*identify author's purpose, point of view, tone	*identify main ideas summarize
Evaluating Ideas/Extending Meaning		
Reliability of Sources	evaluate relevance and reliability of prior knowledge and sources	*identify propaganda/bias evaluate expertise/reliability of sources assess quality of information
Use of Evidence to Draw Inferences	make predictions about the structure and types of information in text evaluate and select reading strategies evaluate and adjust chosen strategies (incl. self-checking and drawing analogies)	evaluate evidence/inferences of author/characters †*draw and evaluate inferences about causes †*draw and evaluate inferences about effects *make and evaluate generalizations (incl. identify theme)

* skills most commonly named in lists of reading objectives

† Teachers and test designers should be especially cautious about accepting at face value the force and scope of traditional reading categories: "distinguish fact from opinion" and "cause and effect." See pages 28 and 33.

The major categories in the framework represent different types of cognitive activities. One dimension includes skill categories — the analytic and evaluative skills important in critical thinking. "Analysis" refers to determining what is in the text. "Evaluating Ideas/Extending Meaning" involves judging, interpreting, and applying ideas. The second dimension reflects perspectives

relative to text (external and internal). Under "external perspective" are skills of comprehension monitoring. Under "internal perspective" are skills addressing textual meaning (mostly traditional comprehension skills).

External analysis of text refers to an important, but often neglected, set of reading skills that help the reader to "set the stage" for reading. Prior knowledge of and experience with the type of reading material and the subject matter are the focus of external analysis which involves the identifying and recalling of information necessary for evaluation. ***External evaluation*** includes the skills involved in making decisions about the reading process (e.g., initial strategy selection, self-checking, strategy adjusting). Such decisions are made throughout the reading of a piece.

Internal analysis of text is the uncovering of what is presented in the text or the clarifying of ideas in the text. It is important in comprehending reading matter of all types that readers recognize different types of information, relationships, and important ideas or issues.

At the same time readers identify types of information, relationships, and key ideas, they most likely evaluate ideas or assess their reasonableness. This activity is ***internal evaluation/extension***. Skills in this category involve the evaluation of inferences made by the author or characters as well as the drawing and evaluating of inferences by the reader himself or herself. Evaluating inferences by the author or characters might seem more important in comprehending some types of content passages — political speeches, editorials, reports of investigations, etc. However, we use those same skills in comprehending literary pieces as well. For example, we evaluate ideas expressed by story characters. Readers extend meaning by using evidence to draw their own inferences from what they have read or by making their own deductions. For instance, upon evaluating a character's statement and determining that it is inaccurate or unsubstantiated, a reader might use evidence to infer that the character is either ignorant or misinformed.

The proposed framework is intended to represent the domain of skills, objectives, or questions that might be addressed by teachers or by readers themselves to help them comprehend the material they read. This is not to say that a reader should pause to ask such questions while reading all material. Clearly, this could detract from the enjoyment one might derive from reading. However, even when reading a novel for pleasure, a good reader, whether competent because of training or other reasons, will apply many of the skills embodied in the framework without thinking about them. For some material, however, even the strong reader might benefit from systematically analyzing the piece. Thus, attending to comprehension monitoring in instruction, in addition to traditional comprehension skills, is intended to make good readers more efficient readers and poor readers better readers by bringing decision making regarding the reading process to the conscious level. This makes readers active rather than passive participants in the reading process.

Sample Reading Materials and Ideas for Lessons

Introduction

Instructional strategies to promote the development and use of good critical and creative thinking are most effective when they involve students in forms of thinking that they will use again and again in their lives. This is best accomplished by *infusing* the teaching of critical and creative thinking into regular classroom instruction and by restructuring the way traditional curriculum materials are used in a subject area like reading. The more we find examples of thinking activities in the materials we already use, the more effective the teaching will be. Furthermore, it is not necessary to manufacture thinking situations. Quite the opposite. The more closely instruction is related to real life, the more likely its effectiveness. The reading/thinking skills identified in the new framework are generally applicable to all types of reading — fiction, nonfiction, textbooks, instruction manuals, etc.

Upon examining what has been written in recent years on the teaching of reading and thinking independently, one cannot help but notice the great consistency across the two areas. Critical thinking experts recognize the importance of prereading and postreading activities as enhancement strategies designed to create an open atmosphere for thinking in the classroom as well as to provide additional training in thinking. In reading, such activities are closely tied to goals of comprehension monitoring. Reading comprehension is facilitated by activating the prior knowledge of readers and by providing strategies for checking their comprehension.

Typical prereading activities include various types of brainstorming exercises. Brainstorming ideas related to an upcoming reading topic in an open classroom atmosphere can benefit all students. Sharing knowledge and ideas can provide a context for reading and give students ideas to look for while reading. Sometimes prereading activities include the grouping of ideas brainstormed to expand students' fluency and flexibility of thought, focus them on bigger ideas and relationships of ideas, and set the stage for a more thoughtful and probing reading of the selection. On the other hand, brainstorming can be more structured. For example, students might be asked to list things they know about a topic, things they are not sure about, and things they need to know. This technique has been found to be extremely effective and can lead to more focused reading.

Three essential commonalities exist between good reading and thinking instruction. The first is the notion of these two activities as active rather than passive processes. Recommended teaching techniques in these areas are designed to make students active participants in reading and thinking who make conscious decisions about how to attack a reading selection or a problem, who raise pertinent issues, and who ask probing questions of themselves and of the information provided them. The second commonality is the tremendous importance of appropriate questioning in both the teaching and practicing of good thinking and reading. Questioning is a major focus in the remaining sections of this report.

Metacognition — thinking about thinking — is another vitally important concept in current views of the teaching of reading and thinking. Reading

experts are striving to bring decision making about how to read a selection to a conscious level in readers. Because metacognition has been shown to have a dramatic impact on learning, thinking experts want students to think about their thinking. Distancing students from the thinking they are doing increases their awareness of what thinking involves. This awareness can be a powerful bridge to the deliberate and reflective selection and use of thinking techniques.

In teaching any skill, one activity in which the students use the skill is rarely sufficient for learning, even if enhanced by metacognition. A final ingredient in teaching the thinking skill is *practice* in the use of that skill in other situations. This can have a dramatic impact on the tendency of students to use the same skill in other appropriate contexts. In general, reading instructors should adopt an expansive approach to extended practice. Other examples in students' reading in which it is important to use the same skill can follow a specific thinking skill lesson in reading. It is important for students to be asked to deliberately undertake this skill building through both cognitive and metacognitive activities incorporated into lessons. But teachers should also prompt the use of thinking skills in other nonreading contexts like open discussions making use of noncurricular, real-life examples. This will help in the broad assimilation of these forms of thinking into students' lives and will make it more likely that the skills will be used in subsequent reading.

In the upcoming sections of this chapter, four sample reading passages are presented and discussed. Ideas for questions that might be asked of students in lessons based upon these passages are proposed. For each passage, questions are presented that deal with selected skills listed under both "External" and "Internal Perspective" in the new framework for reading described in the previous chapter. The passages appearing in this chapter represent three different types — content, literary, and practical. Content passages are informational pieces, often from textbooks, newspapers, and magazines. Literary passages are, of course, passages such as short stories, excerpts from larger literary pieces, poems, etc. Practical passages are such things as sets of directions, manuals, order forms, and reference tools. The reading of practical passages is often followed by some action.

In constructing both lessons and test questions, it is important to be sensitive to the natural forms of thinking that good reading of these passages requires. The discussion accompanying the passages should pave the way for lesson construction which keys into the important aspects of the passages offering the greatest potential as topics for thought-provoking questioning.

Ogopogo

Tales of monster keep lake lively

By Graham Rockingham
UPI Staff Writer

KELOWNA, British Columbia (UPI) — Believers say the warm waters of summer bring the demon to the surface. Skeptics suggest the dark dragon responds better to the ringing of cash registers.

The faithful argue that "Ogopogo" behaves in classic reptilian fashion, its hump-backed body slithering across the lake until it dives again. Wags counter that it actually behaves in classic Chamber of Commerce fashion, showing up about the same time as the summer tourists and disappearing when they do.

Whichever is true, another tourist season has closed at Lake Okanagan and six more sightings of Canada's version of the Loch Ness monster have been logged into the record books.

"I turned around and I saw this dark thing coming through the water," recounts Lionel Edmond, 33, who was fishing with a friend July 20 when he heard a loud rushing of water 30 yards behind him.

"It looked like a submarine surfacing, coming up toward my boat. As it came up perpendicular to the boat we could see six humps out of the water, each hump about 10 inches out of the water and each one creating a wake.

"It was cruising between 8 and 10 miles per hour. We followed it for 10 minutes. We saw no head or tail, but it must have been some 50 or 60 feet long."

Harold Thwait, the former mayor of nearby Peachland, describes the sightings differently.

"A pile of horse . . ." he starts, stops and rephrases.

"I've never seen anything," he begins again. "A lot of it's just tourist promotion. You'll see people rigging up truck tires in the water and taking pictures of them. The next thing you know, you're reading in the newspapers about a new Ogopogo sighting."

Legend holds that a kindly old Indian once lived by the lake but was killed by an evil wanderer. As punishment, the gods turned the killer into a giant lake serpent so he would spend eternity at the scene of his crime.

Sightings of "the remorseful one" date back centuries. Indians who used to hunt and fish the area carried small animals to feed to the monster-god they called "Naitaka."

The first known sighting by a white settler was in 1872, and since then hundreds have claimed to have seen something huge and mysterious rise out of the water.

Dozens of scratchy films, blurry photos and sharp sketches have been submitted as proof that a cousin of Scotland's Loch Ness monster resides in the 80-mile-long, mile-wide lake.

British Columbia authorities were once so convinced of Ogopogo's existence that in 1926 they considered arming lake ferries to protect them from the creature. They were never able to decide, however, what weapon would be effective.

There is no record of the demon ever attacking humans, although in the 1880s a team of horses was said to have mysteriously been pulled underwater, never to be seen again.

Another Indian legend holds that a brave named Timbasket refused to heed the warnings of the elders and paddled his canoe too near Ogopogo's home — Rattlesnake Rock — and disappeared. His canoe was found later high on a nearby cliff.

Ogopogo's biographer, Arlene Gaal, has spent the past five years meeting people who swear they've seen the creature. She has made three sightings herself.

Her dining room table is littered with photographs, some blurry and some obvious fakes. She holds up a snapshot of a dark figure passing under a bridge and pronounces it a hoax.

"This one was taken by a local motel owner. When I asked him to sign an affidavit, he admitted drawing the figure on a piece of glass and holding it in front of his camera."

Gaal has written books on Ogopogo, but her most prized possession is a scratchy 8-millimeter film showing a large figure surface and submerge three times.

The lake is a seven-hour drive east of Vancouver. Framed by mountains, the Okanagan Valley is one of the most scenic areas in western Canada. It is so ready-made for tourists that it's not surprising that people think Ogopogo is a Chamber of Commerce gimmick, a notion enhanced by the fact that many sightings have been made by chamber employees.

Last year the chamber offered a $1 million to anyone who caught Ogopogo alive. Earlier it had offered $5,000 for valid pictures. *The New York Times* once offered $1,000 for a photograph.

No one has ever collected.

Nevertheless, Ogopogo is a commercial success. Cartoon depictions of playful serpents sell everything from pizza to fresh fruit. Roadside garbage cans are disguised as the demon.

Gaal doesn't feel it a coincidence that most sightings occur during tourist season.

"If the creature is reptilian, it will enjoy the warm weather and surface," she says. "We've only had three winter sightings, so it obviously enjoys the pleasures of a reptile."

No serious sonar or cartographic studies have ever been conducted on the lake. And although there is little to uphold the existence of a monster, it is apparent that at least some witnesses have seen something.

Gaal believes Ogopogo is related to the plesiosaur, an Ice Age dinosaur.

Skeptics believe it may be a freak wave or optical illusion created by waves, wind and floating logs. Another explanation is that it is a family of sturgeons, a fish that has been known to grow to 18 feet in British Columbia waters.

But that doesn't sit well with people like Edmond.

"A sturgeon! You must be kidding. I know what a sturgeon looks like," he says. "The thing I saw wasn't no sturgeon. It wasn't like anything I've ever seen before."

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Ideas for Lessons on "Ogopogo"

Passage Overview

"Ogopogo: Tales of monster keep lake lively" is a newspaper article. Being aware of its genre provides an external context for the passage and can generate questions about the purpose of newspapers, the reliability of this particular newspaper, and the article as a secondary source of information channeled through the frame of reference of the reporter and editorial staff.

Noting that the author sets a tone of non-advocacy reporting in the very first paragraph by mentioning two different views about the Ogopogo sightings leads us to expect that a balanced attempt at reporting both sides will be forthcoming in the article. One question that arises in particular is whether the reporter's own point of view or bias affects his ability to present the "facts" in this controversy fairly.

This reporting of the Ogopogo controversy is especially well-suited for a lesson focusing on the kind of thinking necessary to determine the reliability of sources of information — a key critical thinking skill connected to deciding what we should accept or reject in what we read.

External Perspective: Prior Knowledge

Monster tales usually have a strong appeal for students. It is likely that students have read other stories or watched television programs about monster sightings. Questions designed to activate and focus this relevant prior knowledge should improve students' comprehension of the essential ideas in this article.

Begin by asking students to focus on the clues to the article's content provided by the title, "Tales of monster keep lake lively."

What kind of a monster do you think this article is about?

What does the word "tales" suggest about the kind of "monster" information this article contains?

What do lake monster tales usually have in common?

These questions should generate discussion on the legends and stories surrounding the sightings of other lake monsters. The details of "lake monster" sightings are often remarkably similar, a factor which should increase the relevance of this discussion to the reader's comprehension of the article. The discussion prompted by the questions could also be directed toward prior knowledge of good and bad evidence in relationship to lake monsters as well as other questioned phenomena such as UFOs, ghosts, Bigfoot.

Internal Perspective: Reliability of Sources

One might begin this lesson by presenting students with the following scenario:

If you were to see the newspaper headline, "Lake Monster Capsizes Boat," you would probably wonder if it were true. You might discover that the headline is a joke, or that the newspaper is only interested in

making money and does not care what it prints so long as people buy it. In another situation you might discover that what someone says is merely a guess. In each of these cases you are making critical judgments about information by thinking about the reliability of the source of information. Can you think of other factors that would count for or against the reliability of a written source of information like a newspaper, magazine, or book? Let's think now about the reliability of people as sources of information.

Thinking in Reading. *In the Ogopogo article, a number of people gave information about what they saw on the lake. What would you want to know about these people to help you decide whether or not to take them seriously as sources of information?*

Does the article reveal anything about these people that is relevant to their reliability?

Which of these people is most likely to be reliable? Which is least likely to be reliable? Why?

If you could obtain information from another source, what kind of individual would be the best source of information about what is in Lake Okanagan?

How do you feel about Graham Rockingham, the reporter, as a source of information concerning what these people saw? What could you find out about him that would be relevant to his reliability on this subject?

Thinking About Your Thinking. *Make a list of the factors that counted as strengths and those that counted as weaknesses in your judgment about the reliability of the people who provided information about what was in the lake.*

Suppose you had to recommend a reliable source of information concerning what is in the lake. Whom would you recommend? Why?

Follow-up Activities. Additional reading selections featuring eyewitness reports would be ideal to help students practice their skills in determining the reliability of people as sources of information. Conflicting articles could be used to raise questions about reliability of sources of information. Students can also be asked to bring in a variety of newspaper and magazine reports about some controversial issue. They can be asked to rank the reports in terms of reliability and to explain the reasons for their ranking.

CHAPTER 8
The Enduring Revolution

The American Revolution is the single most important event in the history of the United States. Without it there would have been no United States. The American Revolution has also had a great effect on the way people in the United States have thought about themselves and about other countries. It has become the standard by which Americans judge all other revolutions.

What, then, was the meaning of the American Revolution? What kind of revolution was it? Perhaps as important, what kind of revolution *wasn't* it? Now that you have studied the course of events between 1763 and 1783, you will be able to find answers to those questions.

The Nature of the American Revolution

There are a number of ways to get at the true nature of a revolution. One is to study its leaders — to find out about their backgrounds, their social and economic positions, their occupations, and so on. Suppose we were to discover that the leaders of a revolution were all small farmers. That would suggest that farm problems were an important cause of the revolution. Suppose we found that a very large number of the leaders came from one part of the country — say, the South. That might be a clue that matters of special interest to that section had something to do with the revolution. If a great many of the leaders were from the poorer classes, what kind of clue might that give us?

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Leaders of the American Revolution.

What kind of people were the leaders of the American Revolution? Since we can't possibly consider all of them here, we have selected a sample. Our sample is drawn from the fifty-six signers of the Declaration of Independence — surely among the leaders of the Revolution. Here are short descriptions of some of the signers.

John Adams Graduate of Harvard College. Well-to-do lawyer; member of Massachusetts legislature.

Samuel Adams Graduate of Harvard College. Son of a wealthy brewer, most powerful leader in the legislature of Massachusetts.

Josiah Bartlett Doctor; colonel in the militia; member of the New Hampshire Provincial Congress.

Charles Carroll Attended colleges in France. Important landholder and political leader in Maryland; religious leader among American Catholics.

Samuel Chase Leading lawyer in the colony of Maryland; member of Maryland legislature.

George Clymer Prominent Philadelphia merchant and a leading Pennsylvania politician.

Benjamin Franklin Pennsylvania publisher, internationally known scientist.

Elbridge Gerry Graduate of Harvard College. Wealthy Massachusetts merchant and political leader.

Lyman Hall Graduate of Yale College. Doctor; minister; planter in Georgia.

John Hancock Graduate of Harvard College. Merchant; one of the richest men in Massachusetts.

Ideas for Lessons on "The Enduring Revolution"

Passage Overview

Some of the important comprehension issues raised by this passage are related to the textbook genre. If the primary purpose of a textbook is to present information in an objective way, how well does this excerpt exemplify the textbook genre?

This particular passage contrasts with many textbook passages in which facts are presented in a straightforward way. In this passage the reader is asked a series of key questions about revolutions and presented with information about a sampling of the leaders of the American Revolution. These questions and the information are calculated to make the reader draw a conclusion about the causes of the Revolutionary War. This approach raises important questions of clarification — what is the conclusion the reader is led to, and what are the reasons given by the author to support the conclusion?

Only ten of the fifty-six signers of the Declaration of Independence are described. This clearly raises questions of the representativeness of these ten people and whether one can legitimately generalize to the whole group. Moreover, the author gives us certain facts about each of the ten men. Is this information reliable? Does it reveal key facts about the Revolution? The author paints each of these ten as a wealthy, professional man. Could there be other facts about these men that would reveal more complex motivations? Perhaps the author has a preconception of the causes of the revolution and selects his facts accordingly.

A good reading of this passage should prompt these questions and put readers in the position of seeking deeper comprehension and some reflective decision-making about the reasonableness of thinking about the American Revolution in this way.

External Perspective: Evaluate and Adjust Chosen Strategies (Self-Checking)

Many students are probably aware of the purpose of bold-faced headings on textbook pages, and they may be sophisticated concerning the need to vary their reading strategies for the different types of text encountered within the pages of a typical textbook. However, the author's use of questions addressed to the reader within the paragraphs of text is a technique students probably have less experience with and may find confusing. Understanding the purpose of the author's question at the end of the third paragraph is a key ingredient in the reader's overall comprehension of this passage. This passage provides a good opportunity to model the technique of self-checking in connection with students' understanding of this use of questioning.

Check students' understanding of the author's use of questions by asking these questions.

> *Did you pause to answer the question posed by the author at the end of the third paragraph? "If a great many of the leaders were from the poorer classes, what kind of clue might that give us?"*
>
> *Why did the author ask the question in the third paragraph?*

How did (or would) you answer that question?

How is the purpose of the question in the third paragraph different from the questions the author asks in the second paragraph and at the beginning of the "Leaders of the American Revolution" section?

Another self-checking strategy to which this passage lends itself especially well is the students' ability to draw analogies between the ideas presented in the text and a situation outside the text. Asking students to draw the following analogy will help to monitor their understanding of key ideas as well as questioning techniques in this passage.

If all of the leaders of an attempt to take over the student government were athletes who participated on school teams, what kind of clue might that give us about the causes or goals of this takeover?

Internal Perspective: Causal Explanation

We don't always fully understand the way things happen. When we ask why they happened, we are looking for a causal explanation. For example, your stereo may not work. Asking why — looking for a causal explanation — is seldom based on idle curiosity. It usually has practical implications. In the case of your broken stereo, if you know the cause, maybe you can have it repaired. If it has a defective part, perhaps you can get your money back. If you discover that you have blown your speakers, you probably won't get your money back. But if it doesn't work because someone kicked out the plug you will be relieved because it won't cost you anything to get it going again.

Good thinking about the available evidence is important in trying to find out the cause of something. For example, if you jump to the conclusion that the speakers on your stereo are blown and buy new speakers, you may be wasting your money if the problem turns out to be a disconnected plug. In determining the cause of something, it is important to consider a number of possible causes.

Thinking in Reading. *In "The Enduring Revolution," the author raises the question about what caused the American Revolution. What kinds of things could cause a revolution? List a number of these.*

Take a few of these possible causes and describe what circumstances may have existed in the case of the American Revolution if each of these had been a cause. What would you expect to find?

What evidence could you find that might show that each of these was the real cause? What could you find that would count against these explanations?

What information does the author give you about the leaders of the revolution that has bearing on what caused the revolution? Are any of the possibilities you came up with ruled out by this information?

What conclusion does the information the author provides point to as a cause of the revolution?

Is there any further information you need to make you more confident of this conclusion? Is there anything you already know about the leaders of the revolution that has bearing on this question?

Thinking About Your Thinking. *In thinking through the question of what caused the American Revolution, how did you decide what possible causes to list? What different things did you consider in trying to find out about the cause of the American Revolution? What do you think the best plan is to try to find out the cause?*

Follow-Up Activities. Other reading passages involving claims about causes can be analyzed and assessed using the same forms of thinking. A possible source of other examples is fiction. Trying to judge what a story character's motivation is can be introduced as a comparable thinking problem calling for causal explanation. In each of these cases, students should be made aware that they are being asked to repeat the kind of thinking they used in considering the causes of the American Revolution.

Ooka and the Stolen Smell

NOW it so happened in the days of old Yedo, as Tokyo was once called, that the storytellers told marvelous tales of the wit and wisdom of His Honorable Honor, Ooka Tadasuke.

This famous judge never refused to hear a complaint, even if it seemed strange or unreasonable. People sometimes came to his court with the most unusual cases, but Ooka always agreed to listen. And the strangest case of all was the famous Case of the Stolen Smell.

It all began when a poor student rented a room over a *tempura* shop — a shop where fried food could be bought. The student was a most likable young man, but the shopkeeper was a miser who suspected everyone of trying to get the better of him. One day he heard the student talking with one of his friends.

"It is sad to be so poor that one can only afford to eat plain rice," the friend complained.

"Oh," said the student, "I have found a very satisfactory answer to the problem. I eat my rice each day while the shopkeeper downstairs fries his fish. The smell comes up, and my humble rice seems to have much more flavor. It is really the smell, you know, that makes things taste so good."

The shopkeeper was furious. To think that someone was enjoying the smell of his fish for nothing! "Thief!" he shouted. "I demand that you pay me for the smells you have stolen."

"A smell is a smell," the young man replied. "Anyone can smell what he wants to. I will pay you nothing!"

Scarlet with rage, the shopkeeper rushed to Ooka's court and charged the student with theft. Of course, everyone laughed at him, for how could anyone steal a smell? Ooka would surely send the man about his business. But to everyone's astonishment, the judge agreed to hear the case.

"Every man is entitled to his hour in court," he explained. "If this man feels strongly enough about his smells to make a complaint, it is only right that I, as city magistrate, should hear the case." He frowned at the amused spectators.

Gravely, Ooka sat on the dais and heard the evidence. Then he delivered his verdict.

"The student is obviously guilty," he said severely. "Taking another person's property is theft, and I cannot see that a smell is different from any other property."

The shopkeeper was delighted, but the student was horrified. He was very poor, and he owed the shopkeeper for three months' smelling. He would surely be thrown into prison.

"How much money have you?" Ooka asked him.

"Only five *mon*, Honorable Honor," the boy replied. "I need that to pay my rent, or I will be thrown out into the street."

"Let me see the money," said the judge.

The young man held out his hand. Ooka nodded and told him to drop the coins from one hand to the other.

The judge listened to the pleasant clink of the money and said to the shopkeeper, "You have now been paid. If you have any other complaints in the future, please bring them to the court. It is our wish that all injustices be punished and all virtue rewarded."

"But, most Honorable Honor," the shopkeeper protested, "I did not get the money! The thief dropped it from one hand to the other. See! I have nothing." He held up his empty hands to show the judge.

Ooka stared at him gravely. "It is the court's judgment that the punishment should fit the crime. I have decided that the price of the *smell* of food shall be the *sound* of money. Justice has prevailed as usual in my court."

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Ideas for Lessons on "Ooka and the Stolen Smell"

Passage Overview

The first paragraph of the Ooka story identifies it as one of a group of tales of "wit and wisdom." We are immediately led to expect that whatever the content of the story, it will be comparable to other tales featuring incidents that manifest ingenuity and intelligence. Understanding that the purpose of this tale is to exemplify the use of ingenuity and intelligence is an important step in our comprehension and a key issue in helping students to make accurate predictions about the types of information in the text.

Three important layers of questions related to inference and reasoning are generated by an internal focus on this text. Ooka's argument for the guilt of the student and his equally surprising judgment about the appropriate punishment are ripe for the clarification of conclusions, the reasons Ooka uses to support his conclusions, and any assumptions he makes in advancing his judgments. Revealing and assessing the deductive thinking and the use of analogy in these arguments helps us to understand how Ooka uses his wit and wisdom to turn the tables on the shopkeeper by demonstrating the absurdity of his charge of theft against the student. It takes some probing thought to comprehend the real message of Ooka's judgment, as opposed to the apparent incorrectness of his judgment of guilt. By showing the absurd consequence of the shopkeeper's assumption, our sense of justice is upheld. The kind of thinking this story takes us through, therefore, blends critical skills of clarification and analysis to construct the surface argument given by Ooka and extends the reasoning by adding the steps to reduce the shopkeeper's claims to absurdity. The impeccability of the deductive steps in Ooka's reasoning makes us appreciate the wisdom of Ooka and his wit in meting out justice.

External Perspective: Making Predictions

A very natural prereading activity for this story would be to involve students in brainstorming about the word *trial*. Brainstorming about trials should help students to predict the roles of the key characters in the story and keep them from getting confused.

As mentioned earlier, the first two paragraphs of this story lead the reader to expect that this tale will reveal the wit and wisdom of Ooka. By reading these two paragraphs aloud with the class, the teacher can model the skill of picking up on the author's clues to make predictions about the type of information in the text.

Internal Perspective: Finding Conclusions, Reasons and Assumptions

> *As readers, we frequently encounter materials designed to convince us to believe in something. For example, before an election we are usually bombarded with materials designed to persuade us that someone is the best candidate for an office. Such materials usually give us* reasons *for* concluding *that we should vote for this person. To evaluate these campaign messages, we must first determine what conclusions are being presented to us and then examine whether the reasons pre-*

sented for these conclusions are good reasons.

Thinking in Reading. *In the story of the wise judge named Ooka, the student and the shopkeeper went to Ooka and asked him to draw a conclusion about the disagreement. What conclusion did he tell them he drew concerning whether or not the student stole the smell? What were Ooka's reasons for this conclusion? Why do you think these were his reasons?*

Ooka also told them what he concluded concerning the punishment for the student. What was Ooka's conclusion and what were the reasons he offered for it?

Do you think Ooka's reasons for his conclusion about whether the student stole the smell were good reasons? Why? Does Ooka take anything for granted in drawing his conclusion?

Why do you think Ooka told the shopkeeper and the student these were his conclusions?

Thinking About Your Thinking. *How did you figure out which of the things Ooka said were his conclusions and which were the reasons for his conclusions?*

Follow-Up Activities. Students can read other selections in which an argument is presented. A letter to the editor is often an excellent vehicle for extending the skills of finding conclusions, reasons and assumptions.

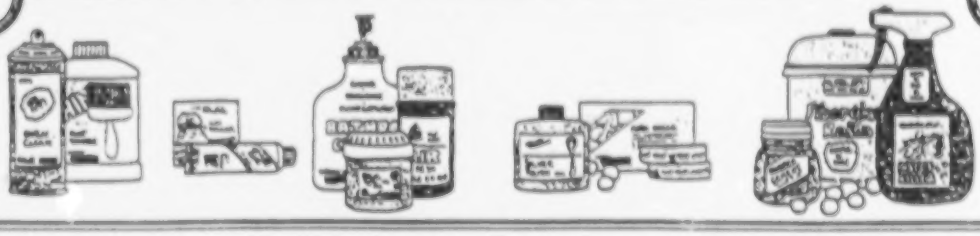
A non-reading activity that can be done in class discussion might present students with the following situation:

Think about what you'd like to do after school this afternoon. What reasons do you have for wanting to do this? Are they good reasons? Why?

Are you making assumptions? Are these good assumptions? Why?

HAZARDOUS WASTE IN YOUR HOME?

Hazardous waste is not just an industrial problem. Many household products contain hazardous chemicals. When we throw them in the trash, or pour them down the drain, we are running a great risk of contaminating our precious drinking water supply. ***We are all hazardous waste generators.***



TIPS ON TOXICS

Purchase

- **Read the label.** Look for "nontoxic" on the label and compare products.
- **Use nontoxic alternatives.** Many times a general household cleaner is just as effective as a specialized product.
- **Buy only what you need.**
- **Buy products with child-proof packaging.**
- **Buy nonaerosol products.** Aerosols produce a fine mist which, when breathed, can settle deep in the lungs; chemicals can be quickly absorbed into the bloodstream. Aerosol cans can explode if stored near heat or if incinerated.

Use

- **Use products in a well ventilated room and avoid breathing fumes.** Take breaks and work outside, if possible.
- **Wear protective clothing.**
- **Never mix products.** Combining ammonia and chlorine bleach produces deadly chloramine fumes. Mixing chemicals can even cause explosions.
- **Use only the recommended amount.** Twice as much is not twice as effective, and may be twice as toxic.
- **If pregnant, avoid exposure to toxics as much as possible.**
- **In case of poisoning, call Poison Control rather than relying on the label directions.** Labels may be incorrect.

Storage

- **Store in a safe place.** Keep all toxics away from children.
- **Close container securely.** Some products, like gasoline, paint, and paint thinner, can evaporate over a long period of time and pollute the air in your house. You may want to store some containers in a shed or garage.
- **Keep products in their original containers.**

Disposal

- **Use up product so there is nothing to dispose.**
- **Donate leftover paints and other products to a local service organization.** Make sure the product is securely packaged and well labeled.
- **Take crankcase oil to a recycling center in your town.** Many service stations will accept used motor oil.
- **Never pour harmful chemicals down the drain or on the ground.** These chemicals include pesticides, paints and preservatives, automotive products, home hobby chemicals, dry cleaners, and drain cleaners.
- **Take your household toxics to the home hazardous waste collection program.** Individuals can take leftover chemicals to a central collection point, and the chemicals are disposed of at licensed treatment and disposal facilities.

Courtesy of Rockingham County Planning Commission

Ideas for Lessons on "Hazardous Waste in Your Home?"

Passage Overviews

We might begin our assessment of this passage by asking questions about the source of the information. Who published this pamphlet? Do the publishers have any vested interests related to the subject of the pamphlet?

Most of the tips within the pamphlet are supported with one or more reasons. Do the reasons really support what is being urged? When a tip appears without a reason, it immediately raises the question, "What reasons could be offered to support it?"

Concentrating on those tips supported by reasons, we note some of these tips seem problematic (e.g., "Buy nonaerosol products.") and require justification. The problem usually relates to the breadth of the generalization contained in the tip. For example, the tip, "Never mix products," raises questions about whether the evidence offered is sufficient to support such a generalized ban on mixtures. Is it legitimate to generalize from such a small sample of evidence? Perhaps other mixtures would be safe and we should not make such a hasty inference.

To read through this passage thoughtfully requires a variety of important forms of thinking related to viewing the tips as supported by the evidence provided. The ambiguity of the phrase, "general household cleaner," and the assumption that general cleaners will be nontoxic in contrast to specialized products is a glaring example of faulty reasoning which critical reading will expose. Issues about bias and propaganda can also be raised in a critical reading of this passage.

External Perspective: Recognize Meaning/Purpose of Structural/Organizational Cues

This passage is ideal for calling students' attention to the purpose of the layout of a page. The purposes behind the features of this page fall under two headings: 1. desire to capture the reader's attention, and 2. desire to make this pamphlet useful to the reader. Students could be led to recognize the purposes behind the features by responding to a series of questions.

Why does the author use the question, "Hazardous Waste In Your Home?" as the title of this pamphlet?

Why does the author include the pictures of household products?

How do the pictures and the title work together to affect the reader?

What is most helpful about the way the "Tips on Toxics" are organized?

Internal Perspective: Well/Ill-Supported Generalization

Learning that all things belonging to a certain type are bound to have certain characteristics is very important to our thinking. Generalizations often guide our decisions. If I know all fruit contains sugar, and I have diabetes, a disease requiring low sugar intake, I have a basis for deciding how much fruit belongs in my diet. The central issue in

evaluating generalizations is how much evidence we need to be confident in our generalizations. Hasty generalizations are those made without good evidence. Prejudice and stereotyping are often based on hasty generalizations. For example, if I think all people from a certain country are hot-headed because of an experience I had with one native of that country, you can be pretty sure that this is a hasty generalization.

Let's look at "Tips on Toxics" to see if the generalizations it makes are ones we should accept.

Thinking in Reading. *The authors of this pamphlet warn us never to mix products. The reason provided to support this tip is that ammonia and chlorine, two household chemicals, produce deadly fumes when mixed. We are also cautioned that mixing products can cause explosions. What generalization do we have to accept to make it reasonable to never mix products?*

Is there any other information you feel you need before you can accept this generalization?

Can you think of some products that it would be safe to mix?

Is there a generalization you can make based on the evidence provided that might be a better generalization than "never mix products"? Why would the new generalization be acceptable?

Thinking About Your Thinking. *What did you determine about the evidence the authors of this pamphlet produced to support the generalization that mixing products is dangerous? Is it enough to support the generalization? Why?*

What must be true of the evidence you have about a group of things before you can use this evidence as the basis for generalizaing for the entire group?

Follow-Up Activities. Examples of advertising that depend on generalization could provide practice in determining if generalizations are well- or ill-founded.

For another follow-up class discussion, students could be asked to consider something like the following:

Think about the generalizations you accept about the people in your town. What is the basis for these generalizations? Is the evidence you have strong enough to support them?

If you feel some of the generalizations about the people in your town are not well-supported, what evidence would you need before you felt you had a good reason to accept them?

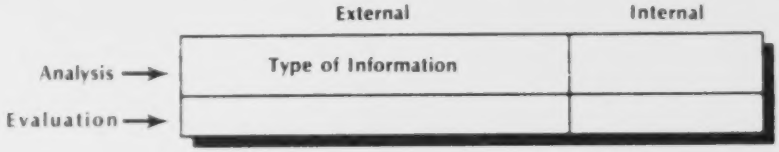
Measuring the Skills

Sample questions addressing many of the skills identified in the matrix are presented below to clarify the nature of the skills and to illustrate kinds of questions teachers might use in assessing reading skills. In instruction and testing, there is a lot to be gained from open-ended (free-response) questioning. The sample questions are mostly multiple-choice to illustrate that the skills can be assessed using this format as well.

The questions pertain to the four passages discussed in the previous section. Under "Comments," additional clarification of the skill areas is provided along with the discussion of related Massachusetts assessment results, where appropriate. The abbreviated matrices serve as reminders to the reader of the categories to which the sample skills belong.

Analyzing Text — External

Skills in this category relate to the gathering of information *about* the text as an entity rather than the constructing of meaning from ideas expressed within the text. This information is what the reader uses to evaluate and select reading strategies. Poor readers who are not aware of the importance of this information-gathering activity probably do not vary their reading approaches for different purposes and types of reading matter, thereby inhibiting efficiency and comprehension. The external analysis of text is not just an initial reading activity; as more evidence is accumulated while reading, the reader undoubtedly refines, revises, and augments the information about the text.



Sample Skill: identify genre (type of selection)

Comments: "Genre" should be interpreted broadly, rather than narrowly as "literary genre." It refers to identifiable types of writing which can include parts of larger works — e.g., book preface.

(OGOPOGO) This passage most likely came from a

A. book of fables.
B. science fiction book.
C. teen magazine.
* D. newspaper.

(OOKA) This passage could be classified best as

* A. a legend.
B. a mystery.
C. mythology.
D. science fiction.

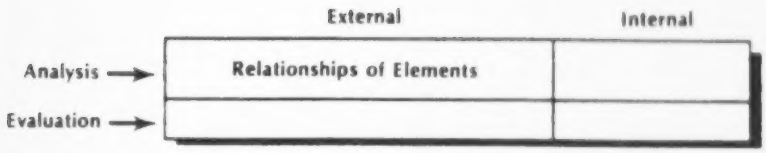
Sample Skill: recognize meaning/purpose of structural or organizational cues (headings, italicized words, etc.)

(TOXIC WASTE) What is the most helpful thing about the way the "Tips on Toxics" are organized?

A. The author uses bold-faced type and dots.
B. The products are organized according to type.
* C. The tips are listed in chronologically ordered groups.
D. Common toxic household products are pictured above the tips.

(OOKA) In the third paragraph, the word *tempura* is printed in italics because it is

A. the most important word in the paragraph.
B. part of a direct quotation.
C. being used in an unusual way.
* D. a word from a foreign language.



Sample Skill: associate genre with its characteristics

Comments: Once genre is recognized, knowledge of its characteristics shapes the reader's expectations of what is to come.

(OGOPOGO) This type of passage usually presents all of the following except

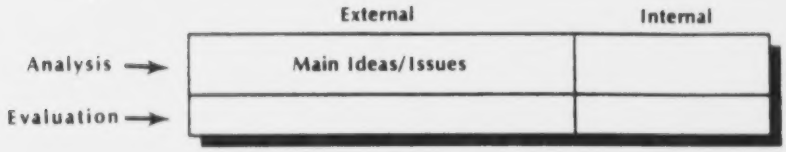
A. conflicting opinions.
* B. extensive technical jargon.
C. eyewitness accounts.
D. facts and statistics.

Sample Skill: recognize topics in which prior knowledge would benefit comprehension

(TOXIC WASTE) Of what subjects does the author of this pamphlet assume the reader already has some knowledge?

(OGOPOGO) This passage assumes the reader already has some knowledge of

A. fresh-water ecosystems.
* B. reportings of lake monsters.
C. scientific experiments.
D. interests of tourists.



Sample Skills: identify author's purpose, point of view, tone

Comments: Massachusetts students performed well on author's purpose questions, although eleventh grade performance was much poorer on a question about the purpose of a portion of a larger piece. A good reader would certainly use different approaches in reading different parts of a work intended for different purposes. For example, one would probably not read a textbook preface and a textbook chapter in the same manner.

In an author's purpose question, the answer options should not all state "to explain ...." If they did, the question would more likely be a main-idea question even though the words "author's purpose" might appear in the question.

"Point of view" pertains to general beliefs and values that a person's opinions and patterns of actions presuppose.

(TOXIC WASTE) The purpose of this passage is to

A. provide a list of nontoxic alternatives.
B. encourage readers to throw hazardous products away.
* C. alert readers to the problem of household toxic waste.
D. announce an upcoming toxic waste collection program.

(OOKA) The overall tone or mood of this story is

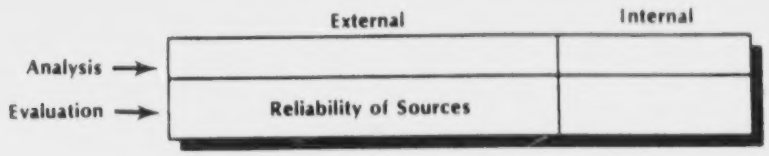
A. serious.
B. sad.
C. peaceful.
* D. lighthearted.

(OGOPOGO) Which of the following statements represents the author's viewpoint best?

A. Ogopogo is probably an unusually large sturgeon.
B. Sightings can be explained as optical illusions.
C. It is a coincidence that most sightings occur during tourist season.
* D. Witnesses really have observed something unusual in the lake.

Evaluating Ideas/Extending Meaning — External

Skills in this category involve the reader's use of information about the reading matter in making predictions about the nature of the text, selecting strategies for reading the passage, and adjusting reading strategies.



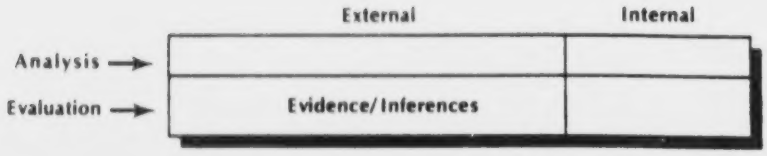
Sample Skill: evaluate relevance and reliability of prior knowledge and sources

Comments: This skill pertains to the reliability of the reader's *sources* of prior knowledge, not the prior knowledge itself. Because multiple-choice questions attempting to measure this skill must assume readers have prior knowledge from the sources listed, the multiple-choice format probably should be avoided.

(TOXIC WASTE) In evaluating the passage's warnings against the use of aerosol products, information from which of the following sources would be most helpful to you?

A. a victim of an eye injury from an aerosol explosion
B. an advertisement for an aerosol product
C. personal experience in the use of aerosol spray paints
* D. a science magazine article on the dangers of aerosols

Where have you received information about the dangers of aerosol products before reading this pamphlet? Which of these sources of prior knowledge would probably be most useful in evaluating this pamphlet's warnings against the purchase and use of aerosol products? Why?



Sample Skill: make predictions about the structure and types of information in the text

Comments: The sample questions deal with considerations of the reader early in the reading of the passage. However, the skill involved is one that a good reader applies throughout the reading as he or she encounters various kinds of cues in the text. The reader continually evaluates the predictions and, upon encountering evidence refuting them, must revise them or perhaps even adjust his or her reading strategy.

(OGOPOGO) The first paragraph of this passage makes you believe the passage will

* A. present opposing views on the issue.
  B. express the author's view and present evidence for that viewpoint.
  C. poke fun at those who believe in Ogopogo.
  D. criticize those who doubt Ogopogo's existence.

(OOKA) The opening paragraphs of this passage make you expect this story to

  A. provide the reader with clues to solve a mystery.
* B. tell how Ooka used his wit to judge an unusual case.
  C. keep you on edge with fear and suspense.
  D. describe a routine case in a Japanese courtroom.

Sample Skill: evaluate and select reading strategies

Comments: Results on MEAP assessment questions addressing this skill suggest that many students are not very experienced in considering different reading strategies for different purposes.

(OOKA) A good strategy for reading a short story such as this one is to

  A. skim through quickly, looking for main ideas.
  B. scan rapidly, looking for names, dates, and places.
* C. read at a comfortable pace, paying attention to the development of plot and characters.
  D. read slowly and carefully, stopping often to summarize paragraphs.

(TOXIC WASTE) This pamphlet is designed to be kept as a handy reference in the home. If you needed tips on disposing of leftover paint, the best strategy for referring to the pamphlet would be to

  A. read the entire pamphlet to be sure you do not miss important information.
  B. scan the entire pamphlet looking for the word "paint."
* C. scan the section labeled "Disposal" for tips on paint.
  D. first check to see if paint is pictured at the top of the list of tips.

Sample Skill: evaluate and adjust chosen strategies (incl. self-checking, drawing analogies)

Comments: Guided, non-multiple-choice questioning could be most effective in teaching this skill, which involves the identification of factors causing confusion and the evaluation of alternative strategies. To construct some multiple-choice questions, the tester must be able to pinpoint a single or most prominent cause for confusion — vocabulary, unfamiliar context, etc.

Analogy questions can accomplish several tasks. They can check a reader's understanding of words and ideas, and they can test a reader's ability to transfer new understandings to different situations — the latter ability constituting stronger evidence of comprehension. Readers' drawing their own analogies can be an effective way of monitoring their comprehension to evaluate their reading strategy.

(OGOPOGO) After reading the three opening paragraphs, what is the best question you could ask yourself to check your understanding?

A. How many Ogopogo sightings occurred last summer?
B. Where is Lake Okanagan?
* C. What is the connection between tourist season and Ogopogo sightings?
D. How is Ogopogo similar to the Loch Ness monster?

(ENDURING REVOLUTION) Why did the author ask the question, "If a great many of the leaders were from the poorer classes, what kind of clue might that give us?"

The author

A. wanted to vary the sentence types to make the material more readable.
B. wanted to introduce the idea that the revolutionary leaders were from the poorer classes.
C. wanted the reader to know that much about history is still not known.
* D. wanted the reader to pause and think about the answer to better understand the material.

(OOKA) Suppose an artist helped to support himself by ushering in a concert hall. The owner of the concert hall took him to Ooka's court because the artist did not pay for the concerts he heard while ushering. What punishment would Ooka most likely have chosen for this crime?

A. making the artist paint the theater for nothing
* B. letting the owner see the artist's paintings
C. sending the artist to jail for a few days
D. having the owner collect money for tickets from the artist

Analyzing Text — Internal

The majority of the traditionally taught skills belong in this major category or the next — i.e., "internal" analysis or evaluation. Literal comprehension objectives could be accommodated by the proposed reading framework. They could belong here in "internal analysis." One must recognize that in testing situations, literal comprehension questions all tend to address the same skill of locating information rather than recalling information, the intended skill. It is important to view inference as the essence of comprehension. An *inference* is an interpretation of an observation based on past experience. For example, waking up and seeing puddles in the street, one might infer that it had rained earlier. Generalizations, predictions, deductions, etc. are special types of inferences.

Comments: The questions in this category should require readers to distinguish among the various types of information. They test far more than terminology, although terminology is important.

Sample Skill: distinguish fact from opinion

Comments: Generally, traditional reading programs overemphasize the identification of value judgments as opinions as in the second sample question. It is important to note that some opinions are not value judgments and that some value judgments are based on good reasons. The fact/opinion distinction relates to how well-founded a judgment is, not to the type of judgment offered.

(OGOPOGO) Which of the following is a statement of opinion?

- * A. There is a monster in the lake.
- B. Some photos of the creature are fakes.
- C. Indian legends spoke of the monster.
- D. Reported sightings occur more in summertime.

(OGOPOGO) Which of the following statements is an opinion?

- * A. "The Okanagan Valley is one of the most scenic areas in western Canada."
- B. "British Columbia authorities were once so convinced of Ogopogo's existence that in 1926 they considered arming lake ferries to protect them from the creature."
- C. "Sightings of the 'remorseful one' date back centuries."
- D. "There is no record of the demon ever attacking humans."

(ENDURING REVOLUTION) The ideas expressed in the sentences of the first paragraph are examples of

- A. assumptions.
- B. facts.
- C. predictions.
- * D. opinions.

Sample Skill: recognize generalizations

Comments: Notice these questions do not require the reader to make a generalization or to evaluate several generalizations to identify the most appropriate one. That skill is covered elsewhere in the matrix. Here students must apply their knowledge of different types of information. In most cases, this means they must know the terminology. In order to critically analyze many kinds of reading material, knowing these basic forms is important.

(TOXIC WASTE) "We are all hazardous waste generators." The statement above, taken from the passage, is

* A. a generalization.
  B. a deduction.
  C. an assumption.
  D. a fact.

(TOXIC WASTE) Which statement from the passage is a generalization?

  A. "Hazardous waste is not just an industrial problem."
  B. "Many household products contain hazardous chemicals."
* C. "We are all hazardous waste generators."
  D. "Aerosol cans can explode if stored near heat or if incinerated."

Sample Skill: recognize assumptions

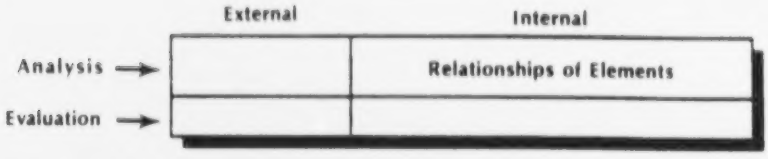
Comments: Based on assessment results, Massachusetts students appear fairly competent with respect to this skill. The second question shows a way to ask about assumptions without using the term.

(TOXIC WASTE) In making the statement, "Many times a general household cleaner is just as effective as a specialized product," the author is assuming that general household cleaners are

  A. cheaper.
* B. nontoxic.
  C. available.
  D. effective.

(OGOPOGO) If author Arlene Gaal considers a film of a large creature submerging and surfacing as her most prized possession, she must believe

  A. Ogopogo is related to the plesiosaur, an Ice Age dinosaur.
  B. the film was made during the summer when the creature would be likely to surface.
  C. Ogopogo has a long, dark, hump-backed body.
* D. the creature in the film really is the elusive Ogopogo.



Sample Skill: identify similarities and differences (compare, contrast, categorize)

Comments: Questions in this category may be general or specific. There is a big difference between "How are Mark and Sam different?" and "How do Mark and Sam differ in their views on education?" As one might expect, assessment results show that students have greater difficulty with the general case. It is clear that students need more experience in comparing and contrasting when part of the task is not already done for them.

(OGOPOGO) How are all of the reported sightings of Ogopogo similar?

A. They occur during tourist season.
B. They occur near Rattlesnake Rock.
• C. They report a large creature surfacing mysteriously in the lake.
D. They are made by Chamber of Commerce employees.

(ENDURING REVOLUTION) Look at the brief description of some of the signers of the Declaration of Independence. Judging from this list, what kind of people were the leaders of the American Revolution?

A. small farmers
B. people from the South
• C. wealthy and well-educated
D. people from the poorer classes

Sample Skill: recognize ambiguity and equivocation

Comments: Ambiguity is created by the use of a word or expression having two or more meanings. Equivocation is the use of a word or expression more than once with different meanings intended. Sometimes these can be a problem to readers who must recognize intended meanings. However, ambiguity and equivocation, so defined, do not necessarily constitute poor or unclear writing. Several traditional vocabulary objectives could relate to this skill — e.g., recognize from context meanings of words with multiple meanings, understand figurative language. Equivocation can be an effective literary technique.

(OGOPOGO) What do you think the author is suggesting by using the word "demon" to refer to Ogopogo? Support your answer with examples from the text.

(OGOPOGO) In the second paragraph, the word "wags" is used to refer to people who

A. believe in Ogopogo sightings.
B. are responsible for Ogopogo hoaxes.
• C. are cynical about Ogopogo's existence.
D. are researching Ogopogo.

Sample Skill: associate reasons with conclusions

Comments: A conclusion is a point or an idea that a person advances. Reasons are the ideas that the person uses to justify or support the conclusion. Reasons are different from causes which make things happen.

(OGOPOGO) The best reason the author has to consider Ogopogo a commercial success is that

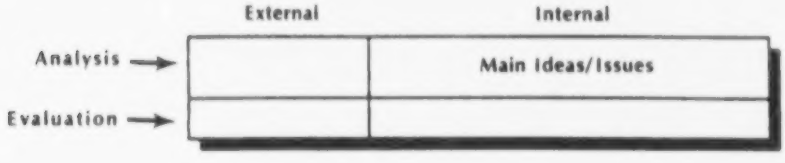
A. roadside garbage cans are disguised as the creature.
B. most Ogopogo sightings occur during tourist season.
• C. a variety of products sold have Ogopogo pictures on them.
D. the Okanagan Valley is a very scenic area.

Sample Skill: recognize analogies

Comments: This skill refers to analogies the author has made in the text.

(OOKA) To Ooka, the sound of money is equivalent to the

A. greed of the shopkeeper.
* B. smell of food.
C. freshly prepared tempura.
D. guilt of the student.



Sample Skill: identify main idea

Comments: As suggested previously, many questions intended to address other skills actually measure this one when the correct answer option is a statement of the main idea. Words in the question such as "author's purpose," "conclusion," etc. are not necessarily accurate indicators of the skill being measured.

(ENDURING REVOLUTION) The main idea of this passage is

A. the American Revolution is the most important event in the history of the U.S.
B. the leaders of the American Revolution came primarily from the upper class.
C. the leaders of the American Revolution were the signers of the Declaration of Independence.
* D. the nature of the American Revolution was related to the nature of its leaders.

Sample Skill: summarize

Comments: In the MEAP assessment, seventh and eleventh graders were asked to summarize a short story in 70 words or fewer. Approximately one-half of the students were able to do each of the following: summarize rather than interpret, include the three most important ideas or events in their summaries, and use an appropriate level of specificity.

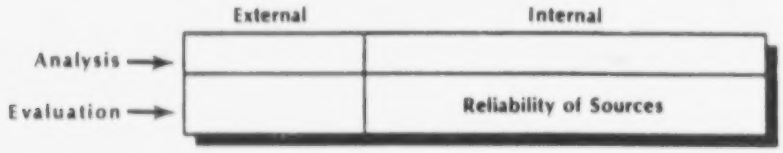
(OGOPOGO) Summarizing: List the opinions concerning Ogopogo presented in this article in two groups:

1. opinions of believers
2. opinions of skeptics

Use these lists as the basis for writing a summary of the conflicting opinions concerning Ogopogo.

Evaluating Ideas/Extending Meaning — Internal

Skills in this category pertain to the evaluation of inferences made by others (the author or characters) or the drawing and evaluating of inferences by the readers themselves. These skills are within the "internal" context because they deal with meanings or implied meanings *within* the text, unlike the meta-cognitive skills considered under the "external" context. One should recognize that multiple-choice test questions dealing with readers' inferences actually require the readers to evaluate inferences made by the test writers.



Sample Skill: identify propaganda/bias

Comments: Neither propaganda nor bias is necessarily bad. Nevertheless, it is important that students be able to evaluate information to detect propaganda or bias. Propaganda is information or ideas (true or otherwise) intended to shape or sway the opinions or beliefs of others. A bias is a general point of view based on unsupported assumptions.

(TOXIC WASTE) Which characteristic of the page is not a propaganda technique intended to convince people there are hazardous wastes in their homes?

A. the title of the pamphlet
B. the boldface statement in the opening paragraph
C. the items shown in the pictures
* D. the way the tips are assigned to groups

(OGOPOGO) Which of the following points of view from the passage seems to be most biased?

A. Ogopogo is a commercial success.
B. The Lake Okanagan area is appealing to tourists.
* C. The Chamber of Commerce values truth less than profit.
D. Ogopogo is probably a reptilian creature.

Sample Skill: evaluate expertise/reliability of sources

Comments: It is important that readers not accept the written word on faith. They must evaluate the quality of information to determine what they will believe and not believe. On assessment questions asking which character knew most about a topic or which source identified in a political editorial had the most accurate information, Massachusetts students performed quite well. Thus, students seem to have this skill. However, we do not know if they tend to apply it on their own.

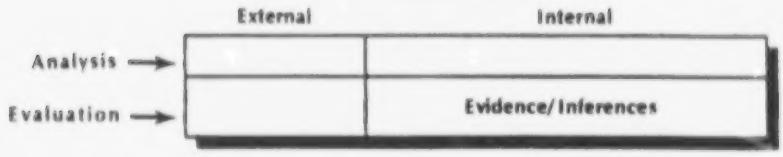
(TOXIC WASTE) If you wanted to know if mixing two particular household cleaners would produce toxic fumes, who would be the best person for you to ask?

A. the person or persons selling the cleaners
* B. a chemist
C. the manager of a home hazardous waste collection point
D. a janitor

(OGOPOGO) Whose claim that the creature really exists is most believable?

* A. Arlene Gaal
B. Lionel Edmond
C. a Chamber of Commerce spokesperson
D. a tourist with a snapshot of the creature

Defend your choice with evidence from the text.



Sample Skill: evaluate evidence and inferences of author or characters

Comments: The evidence and inferences being evaluated in questions addressing this skill should all appear (or be implied) in the text. These are not the reader's inferences. Questions addressing this and the remaining skills might ask for best supported conclusions/inferences or for the best evidence supporting a particular conclusion/inference.

(OGOPOGO) Which of the following conclusions is best supported by evidence?

* A. Some evidence was faked.
B. Ogopogo is reptilian.
C. The creature is related to a sturgeon.
D. Indians have seen Ogopogo.

(OGOPOGO) What is the best evidence the author had to believe that some photos had been faked?

A. Photos were blurry and unclear.
B. Sightings occurred most often during tourist season.
C. Natives were profiting from the alleged sightings.
* D. One motel owner admitted he faked some photos.

Sample Skill: draw and evaluate inferences about causes

Comments: In traditional reading programs, "inferring cause and effect" usually covers no more than classifying given events as causes and effects. In contrast, in causal explanation, causes must be discovered through the use of inferential skills involving the location and evaluation of evidence. Causes have often been viewed as events (such as actions of characters or natural events) which bring about other events. Actually character traits and motivations can be causes as well, even though they are treated as separate objectives in traditional reading instruction.

(OOKA) In taking the student to court, the shopkeeper was motivated by

A. jealousy.
* B. greed.
C. fear.
D. ambition.

Sample Skill: draw and evaluate inferences about effects

Comments: As with causes, there are many kinds of effects. Thus, "inferences about effects" includes many traditional objectives such as inferring characters' feelings (after events) or making predictions as well as inferring other kinds of effects. Prediction questions in the past have often been too simplistic — based on contrived passages or stories left "unfinished" and asking the obvious question. The skill of predicting can involve far more evaluating of evidence and higher-order thought.

(OOKA) After Ooka explained his unusual verdict, the shopkeeper probably felt

A. satisfied.
B. bored.
* C. humiliated.
D. relieved.

(TOXIC WASTE) The author is concerned that changing containers for toxic products will result in

* A. mislabeling of the products.
B. toxic fumes or explosions.
C. spilling of the products.
D. dangerous reactions with the new container.

(OGOPOGO) Based on the information in this article, it is most likely that

* A. more Ogopogo sightings will occur next summer.
B. believers will prove that Ogopogo exists.
C. people will soon lose interest in Ogopogo.
D. skeptics will prove that Ogopogo doesn't exist.

Sample Skill: make and evaluate generalizations

Comments: Questions addressing this skill are not testing knowledge of what a generalization is. Consequently, all answer options in a multiple-choice question asking for the best generalization should be generalizations. Themes (as in the second sample question) are usually generalizations, as opposed to main ideas which are more closely tied to the action or ideas in the text.

(TOXIC WASTE) What is the best generalization that can be drawn from this pamphlet?

* A. Hazardous wastes are found in all homes.
B. All toxic products are unnecessary.
C. Nontoxic products are as effective as toxic products.
D. Household hazardous waste is more hazardous than industrial waste.

(OOKA) The most important message of this story is

A. two wrongs don't make a right.
B. everyone has a right to a fair trial.
C. greed is the root of all evil.
* D. wrongdoing should be punished fairly.

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